

SGCN and Habitat Stressors

Level 1 Threat Energy Production and Mining

Level 2 Threat: Renewable Energy

Description: Exploring, developing, and producing renewable energy

Species Associated With This Stressor:

Total SGCN: 1: 13 2: 16 3:

Class	<i>Actinopterygii</i> (Ray-finned Fishes)	SGCN Category
Species: <i>Alosa pseudoharengus</i> (Alewife)		2
Severity:	Moderate Severity	Actionability: Highly actionable
Notes:	Some proposed renewable energy projects such as tidal barrages or tide driven turbines may significantly impact anadromous fishes by either obstructing or greatly reducing natural migration routes, as well as mortality associated with turbine strikes.	
Species: <i>Acipenser oxyrinchus</i> (Atlantic Sturgeon)		1
Severity:	Severe	Actionability: Actionable with difficulty
Notes:	Some proposed renewable energy projects such as tidal barrages or tide driven turbines may significantly impact anadromous species by either obstructing or greatly reducing natural migration routes, as well as mortality associated with turbine strikes.	
Species: <i>Alosa aestivalis</i> (Blueback Herring)		1
Severity:	Moderate Severity	Actionability: Highly actionable
Notes:	Some proposed renewable energy projects such as tidal barrages or tide driven turbines may significantly impact anadromous species by either obstructing or greatly reducing natural migration routes, as well as mortality associated with turbine strikes.	
Species: <i>Osmerus mordax</i> (Rainbow Smelt)		1
Severity:	Moderate Severity	Actionability: Highly actionable
Notes:	Some proposed renewable energy projects such as tidal barrages or tide driven turbines may significantly impact smelt by either obstructing or greatly reducing natural migration routes, as well as mortality associated with turbine strikes.	
Species: <i>Acipenser brevirostrum</i> (Shortnose Sturgeon)		1
Severity:	Moderate Severity	Actionability: Moderately actionable
Notes:	Some proposed renewable energy projects such as tidal barrages or tide driven turbines may significantly impact anadromous species by either obstructing or greatly reducing natural migration routes, as well as mortality associated with turbine strikes.	
Species: <i>Morone saxatilis</i> (Striped Bass)		2
Severity:	Moderate Severity	Actionability: Moderately actionable
Notes:	Some proposed renewable energy projects such as tidal barrages or tide driven turbines may significantly impact anadromous species by either obstructing or greatly reducing natural migration routes, as well as mortality associated with turbine strikes.	
Class	<i>Amphibia</i> (Amphibians)	SGCN Category
Species: <i>Gyrinophilus porphyriticus porphyriticus</i> (Northern Spring Salamander)		2
Severity:	Moderate Severity	Actionability: Moderately actionable
Notes:	Wind energy development; headwater streams receive limited protections; habitat loss and degradation of the shoreland zone affects water quality and riparian habitat quality and function	
Class	<i>Aves</i> (Birds)	SGCN Category
Species: <i>Catharus bicknelli</i> (Bicknell's Thrush)		1
Severity:	Moderate Severity	Actionability: Highly actionable
Notes:	Loss and fragmentation of habitat by wind power development; potential collision with structures	

SGCN and Habitat Stressors

Level 1 Threat Energy Production and Mining

Level 2 Threat: Renewable Energy

Class	Aves (Birds)	SGCN Category
Species: <i>Aquila chrysaetos</i> (Golden Eagle)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Wind energy facilities within breeding, migratory, and wintering ranges pose potential direct (collision) and indirect (habitat loss and alteration, flight behavior, energetics) impacts.		
Species: <i>Phalaropus lobatus</i> (Red-necked Phalarope)		2
Severity: Moderate Severity	Actionability: Highly actionable	
Notes: Can prevent impacts by siting wind turbines away from tidal upwellings through environmental review process.		
Class	Gastropoda (Aquatic And Terrestrial Snails)	SGCN Category
Species: <i>Vertigo paradoxa</i> (Mystery Vertigo)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Development around the few small base-rich outcrops where this snail occurs in dense colonies could extirpate local populations		
Class	Insecta (Insects)	SGCN Category
Species: <i>Epeorus frisoni</i> (Roaring Brook Mayfly)		1
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Riparian zone and stream corridor impacts from industrial wind power development		
Class	Mammalia (Mammals)	SGCN Category
Species: <i>Eptesicus fuscus</i> (Big Brown Bat)		2
Severity: Moderate Severity	Actionability: Highly actionable	
Notes: There is a high probability that the cumulative effects of wind turbine mortalities would have a population level effect on this bat species in Maine.		
Species: <i>Balaenoptera musculus</i> (Blue Whale)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.		
Species: <i>Myotis leibii</i> (Eastern Small-footed Myotis)		1
Severity: Moderate Severity	Actionability: Highly actionable	
Notes: There is a high probability that the cumulative effects of wind turbine mortalities would have a population level effect on this bat species in Maine.		
Species: <i>Balaenoptera physalus</i> (Finback Whale)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.		
Species: <i>Megaptera novaeangliae</i> (Humpback Whale)		1
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.		

SGCN and Habitat Stressors

Level 1 Threat Energy Production and Mining

Level 2 Threat: Renewable Energy

Class	<i>Mammalia</i> (Mammals)	SGCN Category
Species: <i>Myotis lucifugus</i> (Little Brown Bat)		1
Severity: Severe	Actionability: Highly actionable	
Notes: There is a high probability that the cumulative effects of wind turbine mortalities would have a population level effect on this bat species in Maine.		
Species: <i>Eubalaena glacialis</i> (North Atlantic Right Whale)		1
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.		
Species: <i>Synaptomys borealis sphagnicola</i> (Northern Bog Lemming)		1
Severity: Moderate Severity	Actionability: Highly actionable	
Notes: Because northern bog lemmings often occur in high elevation sites, they may be vulnerable to wind farms. If a wind project alters the drainage of a site or opens a closed canopy forest, it may destroy northern bog lemming habitat. It is reversible problem because with site inspections the wind farm developer has the option of relocating the project.		
Species: <i>Myotis septentrionalis</i> (Northern Long-eared Myotis)		1
Severity: Moderate Severity	Actionability: Highly actionable	
Notes: While cave bats are considered less susceptible to wind turbine collision than tree bats, potentially additive mortality events, especially in the aftermath of WNS, has been observed.		
Species: <i>Balaenoptera borealis</i> (Sei Whale)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.		
Species: <i>Lasionycteris noctivagans</i> (Silver-haired Bat)		2
Severity: Moderate Severity	Actionability: Highly actionable	
Notes: Regular mortality for tree bats at windpower installations is widely reported and potentially most problematic for these migratory tree bats, but curtailment on nights with low wind speeds greatly minimizes (nearly avoids) these losses. The status of tree bat populations in Maine is not quantified but all species have long been considered "Special Concern" based on apparent low densities.		
Species: <i>Physeter macrocephalus</i> (Sperm Whale)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.		
Species: <i>Perimyotis subflavus</i> (Tri-colored Bat)		2
Severity: Severe	Actionability: Highly actionable	
Notes: This status of this bat species in Maine is poorly documented, but numbers imply a very small population. Any mortality associated with windpower installations could be extremely influential given the apparent vulnerability of tri-colored bats in Maine.		
Class	<i>Reptilia</i> (Reptiles)	SGCN Category
Species: <i>Chelonia mydas</i> (Green Seaturtle)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: There is currently little information on how wind turbines in the ocean environment affect different species		

SGCN and Habitat Stressors

Level 1 Threat Energy Production and Mining

Level 2 Threat: Renewable Energy

Class	<i>Reptilia</i> (Reptiles)	SGCN Category
Species: <i>Lepidochelys kempii</i> (Kemp's Ridley Seaturtle)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: There is currently little information on how wind turbines in the ocean environment affect different species		
Species: <i>Dermochelys coriacea</i> (Leatherback Seaturtle)		1
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: There is currently little information on how wind turbines in the ocean environment affect different species		
Species: <i>Caretta caretta</i> (Loggerhead Seaturtle)		2
Severity: Moderate Severity	Actionability: Moderately actionable	
Notes: There is currently little information on how wind turbines in the ocean environment affect different species		

Habitats Associated With This Stressor:

Macrogroup Boreal Upland Forest

Habitat System Name: Acadian Low Elevation Spruce-Fir-Hardwood Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Acadian Sub-boreal Spruce Flat

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Acadian-Appalachian Montane Spr-Fir-Hwd Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Boreal Jack Pine-Black Spruce Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Macrogroup Intertidal Water Column

Habitat System Name: Confined Channel

Notes: Proposed tidal barrages and other hydropower or tidal power structures can block marine organism movements, result in mortality, decrease natural sediment flow, change local water flow patterns, and decrease larval dispersal

Habitat System Name: Embayment

Notes: Proposed tidal barrages and other hydropower or tidal power structures can block marine organism movements, result in mortality, decrease natural sediment flow, change local water flow patterns, and decrease larval dispersal

Habitat System Name: Exposed Shore

Notes: Proposed tidal barrages and other hydropower or tidal power structures can block marine organism movements, result in mortality, decrease natural sediment flow, change local water flow patterns, and decrease larval dispersal

Macrogroup Northern Hardwood & Conifer

Habitat System Name: Appalachian (Hemlock)-Northern Hardwood Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Laurentian-Acadian Northern Hardwoods Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

SGCN and Habitat Stressors

Level 1 Threat Energy Production and Mining

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Macrogroup Northern Hardwood & Conifer

Habitat System Name: Laurentian-Acadian Pine-Hemlock-Hardwood Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Laurentian-Acadian Red Oak-Northern Hardwood Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Northeastern Coastal and Interior Pine-Oak Forest

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Macrogroup Outcrop & Summit Scrub

Habitat System Name: Laurentian-Acadian Calcareous Rocky Outcrop

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Habitat System Name: Northern Appalachian-Acadian Rocky Heath Outcrop

Notes: Wind energy development has direct impacts to habitat and when not properly sighted can have long-term impacts to bird and bat populations

Macrogroup Subtidal Bedrock Bottom

Habitat System Name: Bedrock

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Erect Epifauna

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Kelp Bed

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Macrogroup Subtidal Coarse Gravel Bottom

Habitat System Name: Coarse Gravel

Notes: Mounting equipment and transmission cables for floating offshore wind turbines

Habitat System Name: Erect Epifauna

Notes: Mounting equipment and transmission cables for floating offshore wind turbines

Habitat System Name: Kelp Bed

Notes: Mounting equipment and transmission cables for floating offshore wind turbines

Macrogroup Subtidal Mollusc Reefs

Habitat System Name: Gastropod Reef

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Mussel Reef

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Oyster Reef

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

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Macrogroup Subtidal Mud Bottom

Habitat System Name: Submerged Aquatic Vegetation

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Unvegetated

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Macrogroup Subtidal Pelagic (Water Column)

Habitat System Name: Confined Channel

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Nearshore

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Offshore

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Upwelling Zones

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Macrogroup Subtidal Sand Bottom

Habitat System Name: Submerged Aquatic Vegetation

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

Habitat System Name: Unvegetated

Notes: Mounting equipment and transmission cables for floating offshore wind turbines. Also proposed tidal barrages and other hydropower or tidal power structures can block marine organisms.

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The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.